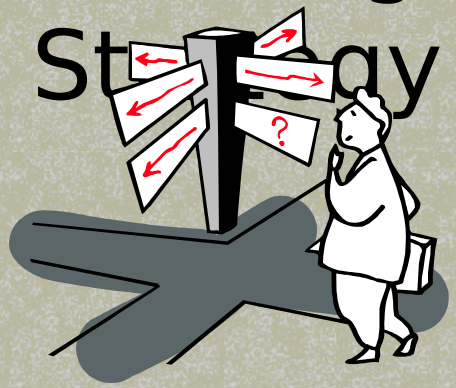
GEIA Annual Conference – Sept 2004

The "Right Stuff" , in the "Right Place", at the "Right

Bills of Information

A Data Management Strategy



GENERAL DYNAMICS
C4 Systems

GEIA
GOVERNMENT ELECTRONICS AND INFORMATION TECHNOLOGY ASSOCIATION
A Sector of the Electronic Industries Alliance EIA

Bills of Information

- Definition
  - What does that really mean?
  - How will that help DM?
- Composition (classes of data)
  - Administrative
  - Contractual
  - Technical
  - Financial

Bills of Information

- Contents – relationships/views
  - Enterprise data
  - Management data
  - Functional data
  - Product data
- Practical use
- Bill of Information Examples

BOI Definition:

- “The bill of information consists of all the information and relationships to completely document the entire life cycle of a product – including the associated project information (administrative, contractual, technical, and financial data) and it’s location.”

GEIA-859

What does that really mean?

- All data/information used to:
  - Propose
  - Plan
  - Develop/procure
  - Manufacture/build
  - Test
  - Deliver
  - Maintain a work product throughout the life cycle (fielding and maintenance)
  - Disposition

What does that really mean?

- Not entirely new concept
- Implementation is sketchy and patchy
- Pockets of excellence – Bills of material
- Expand the BOI to include all information
- Start small and build

How does that help DM?

- EIA-859 has changing focus –
  - Moving from traditional DM
    - Contractual data
    - CDRLs/SDRLs
  - Moving to enterprise DM
    - Manage all data for enterprise
      - See tutorials and presentations on EIA-859 given by Joe Roman and Jim VanDyke

Composition – types of data

- Administrative data - Examples
  - Work authorizations
  - Management plans
  - Budgets
  - Schedules
  - Meeting minutes
    - Project
      - Integrated Product Teams
      - Program Reviews
      - Review agendas and minutes

Composition – types of data

- Contractual data – Examples
  - Contract and contract mods
  - Statement of objectives/work
  - Data Requirements list (DD1423s)
  - Data Item Requirements/Description (DID)
  - Data item submittal/transmittal info
  - Customer comments
  - Comments to suppliers

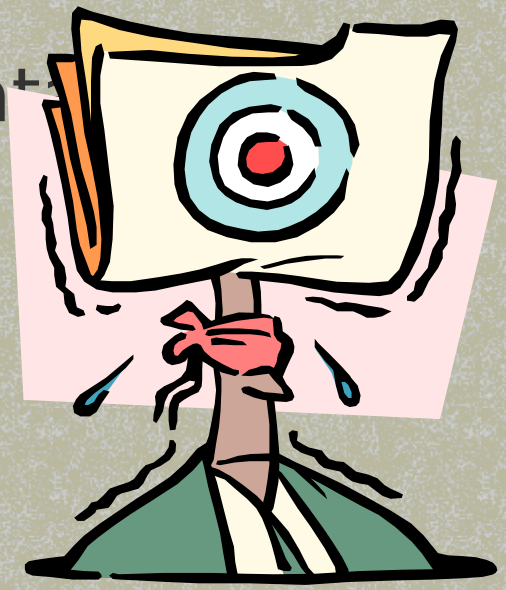
Composition – types of data

- Technical data - Examples
  - Product requirements
  - Product design
  - Product specification
  - Testing documentation (plan, procedure, reports)
  - Technical and scientific manuals/reports
  - Modeling and simulation inputs/outputs

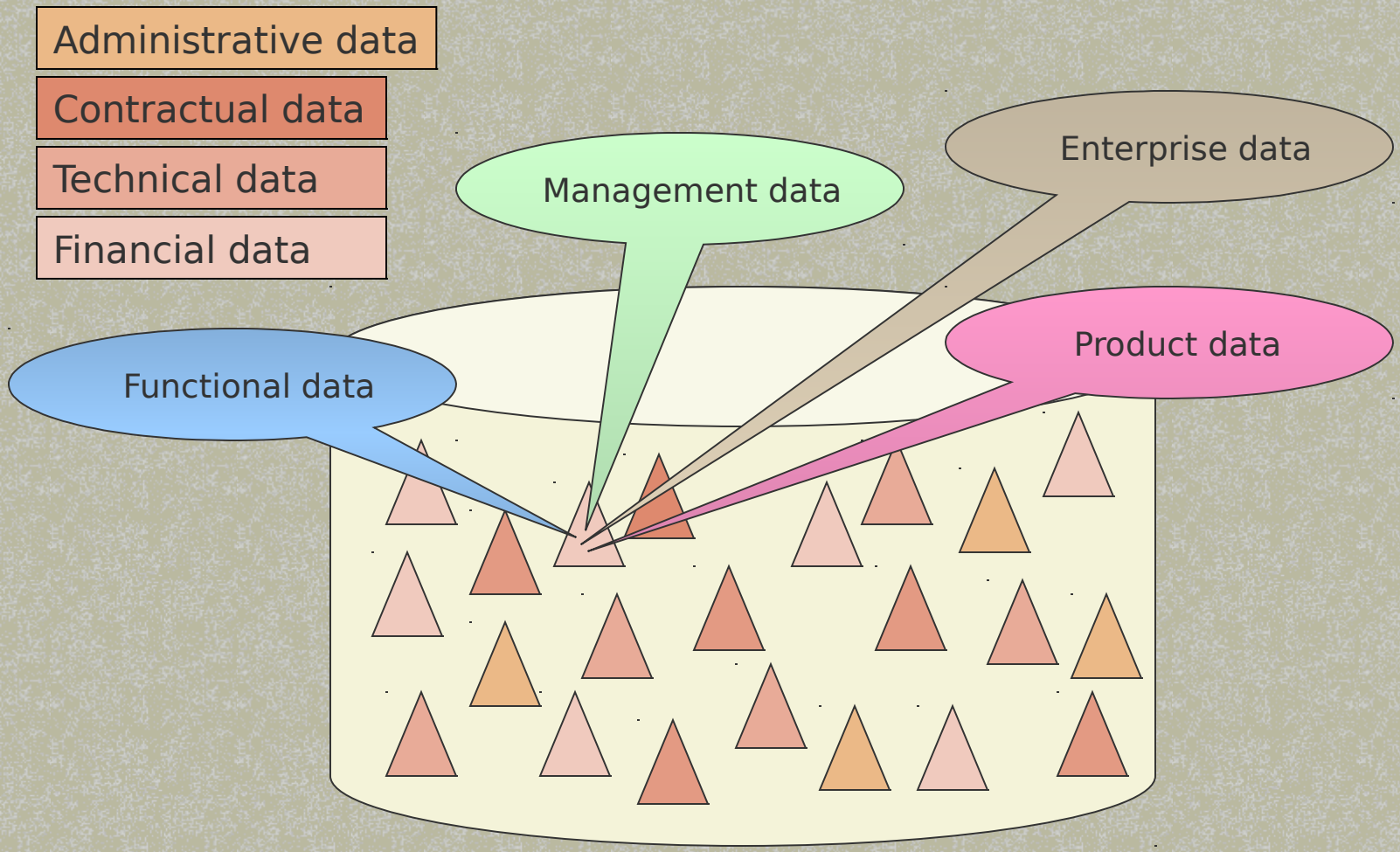
Composition – types of data

- Financial data - Examples
  - Cost performance reports
  - Annual reports
  - Return on Investment data
  - ???? – if you see this,

    I have to kill you



Composition vs. Content



Content – relationships/views

- Enterprise data
  - Business Policy and Process data
  - Operating Manuals
  - Standard Operating Instructions
  - Organizational data
  - Human Resources data

Content – relationships/views

- Management data
  - Risk Management data
  - Metric data
  - Customer satisfaction data
  - Personnel data
  - Proposal data
  - Cost data

Content – relationships/views

- Functional data
  - Metric data
  - Manpower data
  - Audit data
  - Historical cost data
  - Data/records retention data
  - Templates and forms data

Content – relationships/views

- Product data
  - Tailored project planning
  - Bills of material data
  - License agreement data
  - Vendor data
  - CSA data – build, deliver, maintain
  - Release Management data
  - Audit data

Practical Use

- How do we use and structure data?
  - Based on enterprise structure and tools
  - Expandable for business context
  - Index data
    - Relationship driven
      - Multiple uses for data
      - View based on need to know
    - Access managed
      - IP classification
      - Use and need
  - Physical data
    - Repository for physical files

PDM Tools

PDM Tools are the only tools that can be used to build an effective BOI. Why?

_____

PDM Tools

- Provide repository / storage
  - Types of files
  - Ability to integrate design tools - examples
    - Catia
    - Autocad
    - ProE
    - Word
    - Excel

PDM Tools

- Provide indexing capability
  - Capture relationships
    - Document to document
    - Document to part
    - Part to part
  - Capture multiple level structures
    - Multiple uses
    - Multiple views

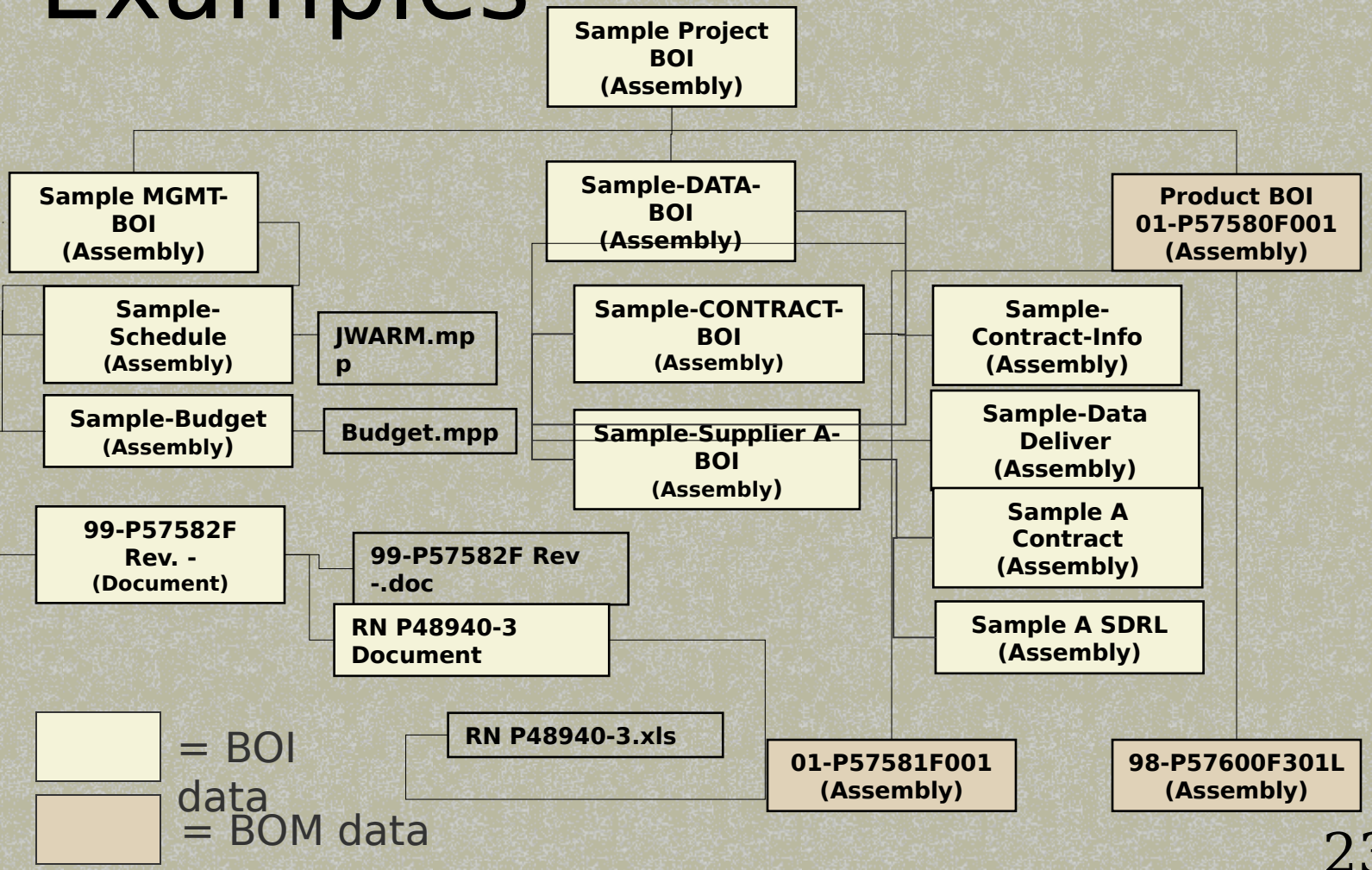
PDM Tools

- Provide access controls
  - Approvals for access
    - Project lead approval
    - Project administrator
    - Division administrator
  - Responsibilities
    - Citizenship
    - Employment status
    - Contract requirements and need to know
    - Security clearance level

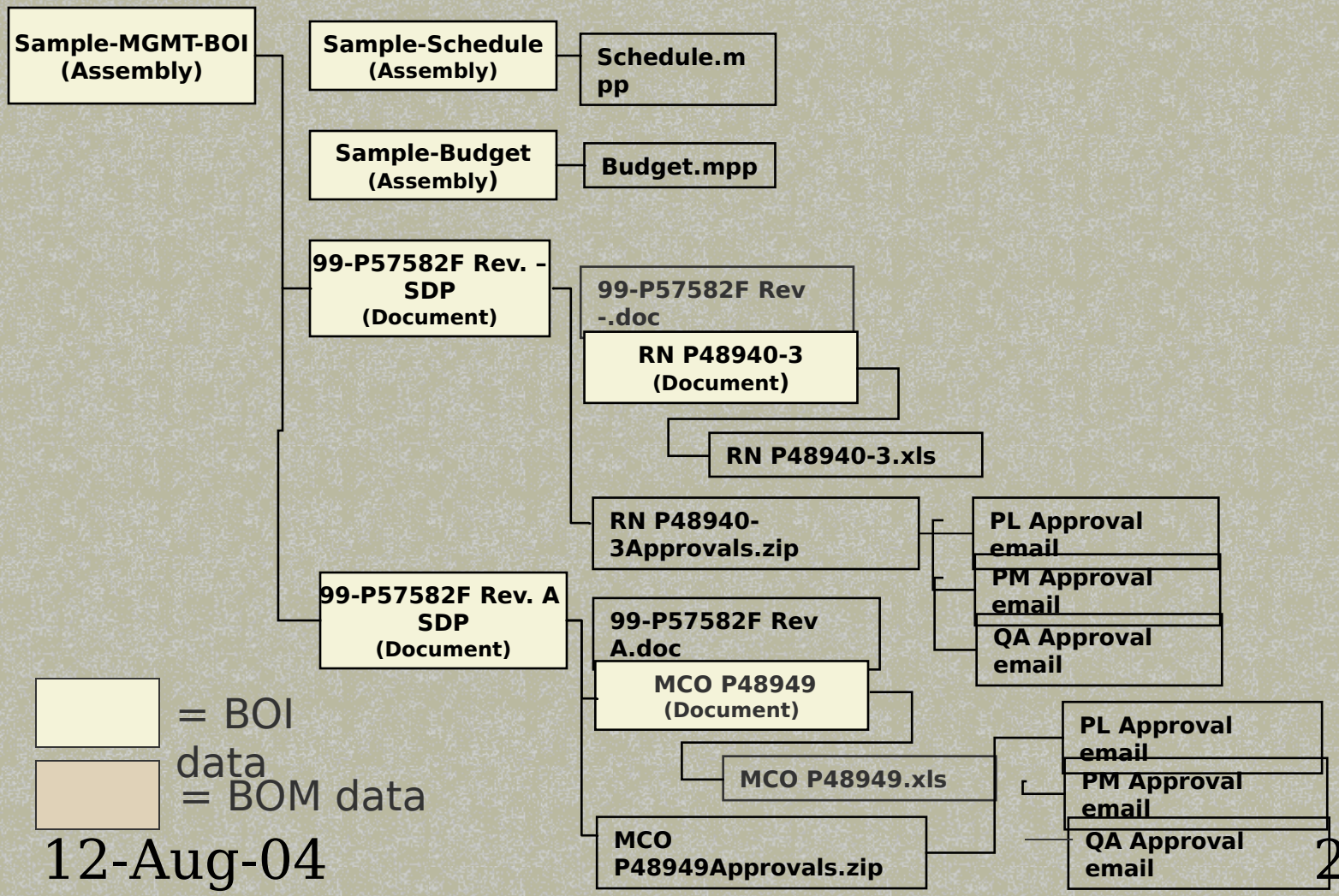
Bill of Information Examples

- Sample project structure
  - Management BOI
  - Data BOI
    - Contract data
    - Supplier data
  - Product BOI
    - Hardware
    - Software
    - Supplier data

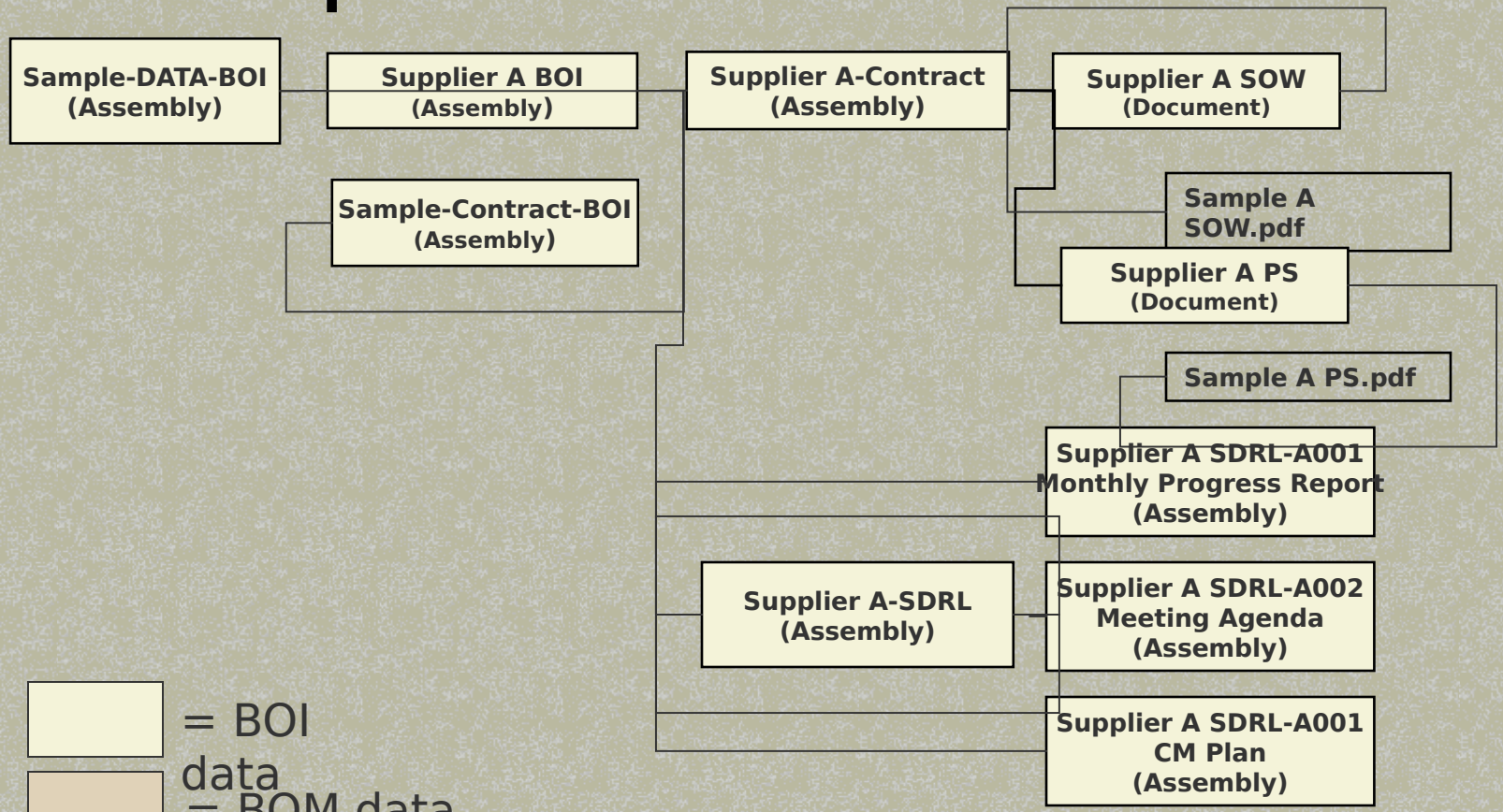
Bill of Information Examples



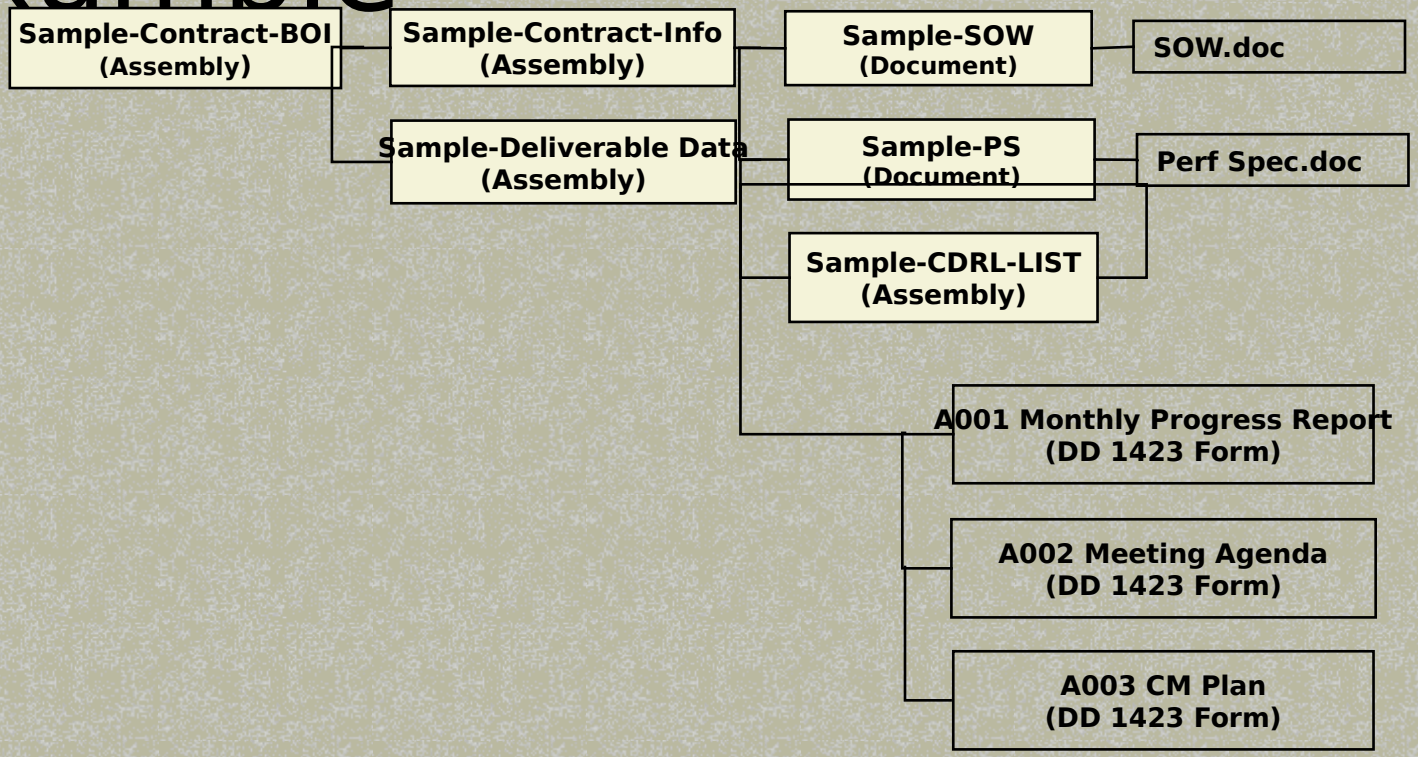
Management BOI Example



Data BOI – Supplier Example



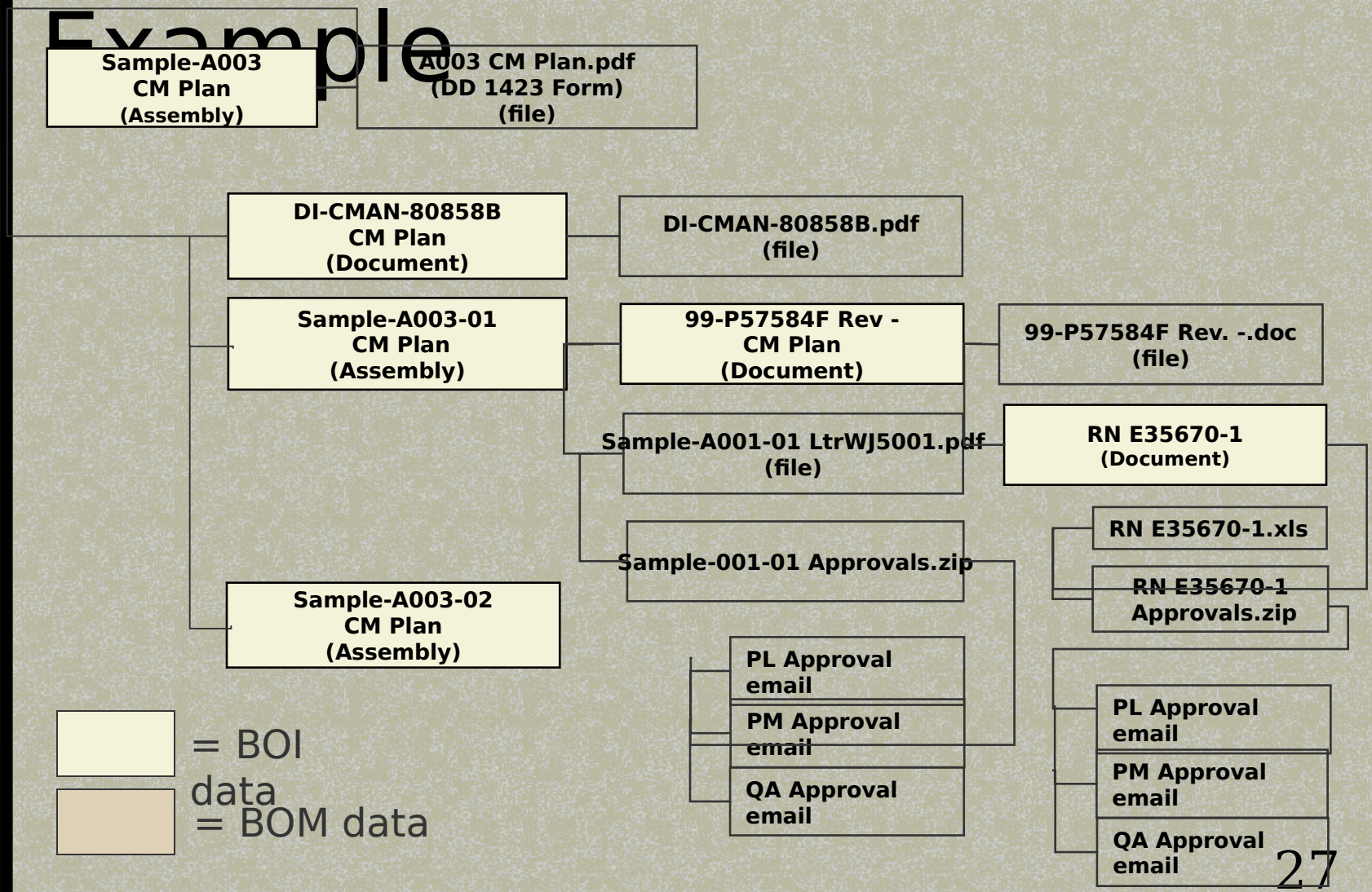
Data BOI – Contract Example



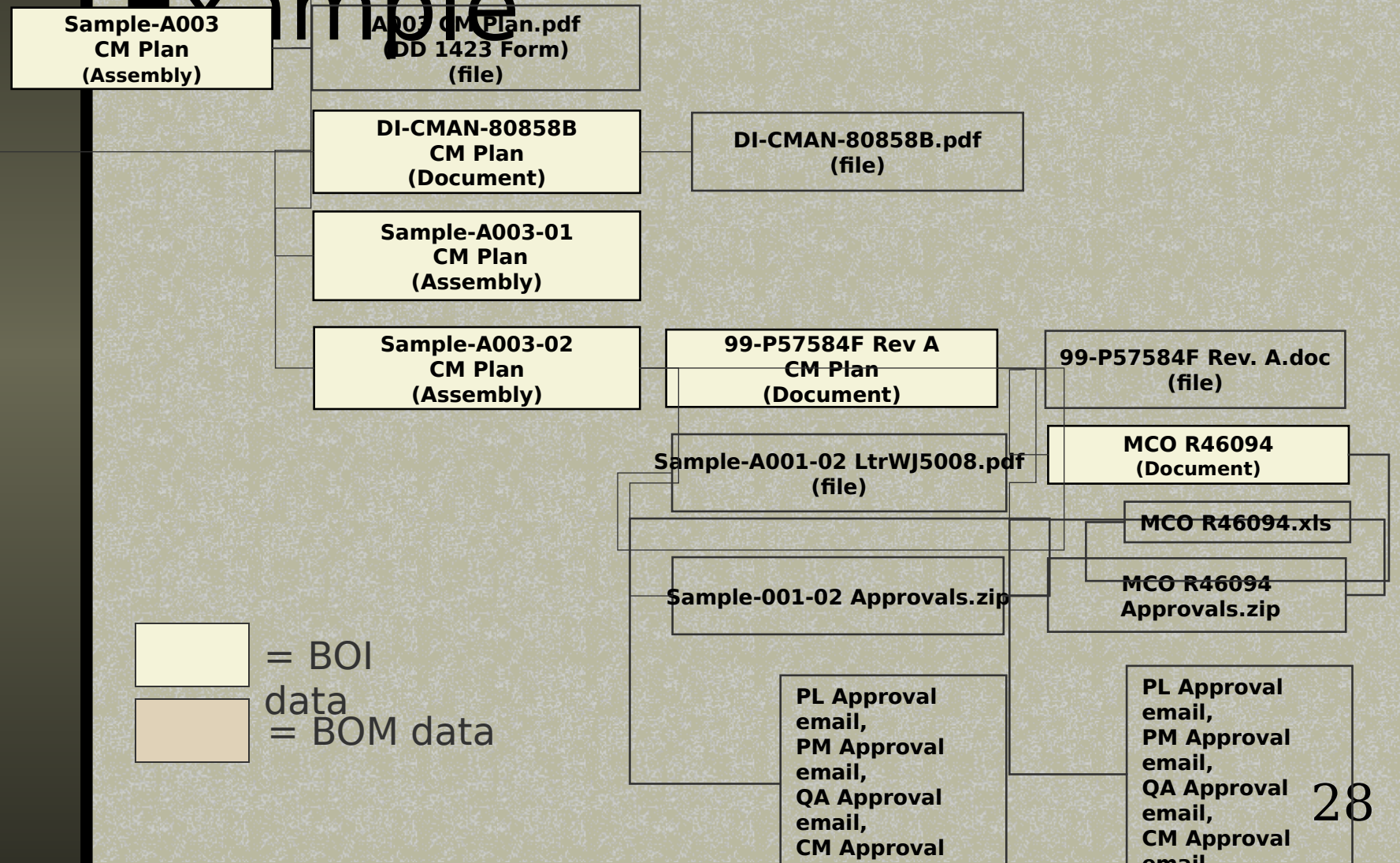
= BOI data

= BOM data

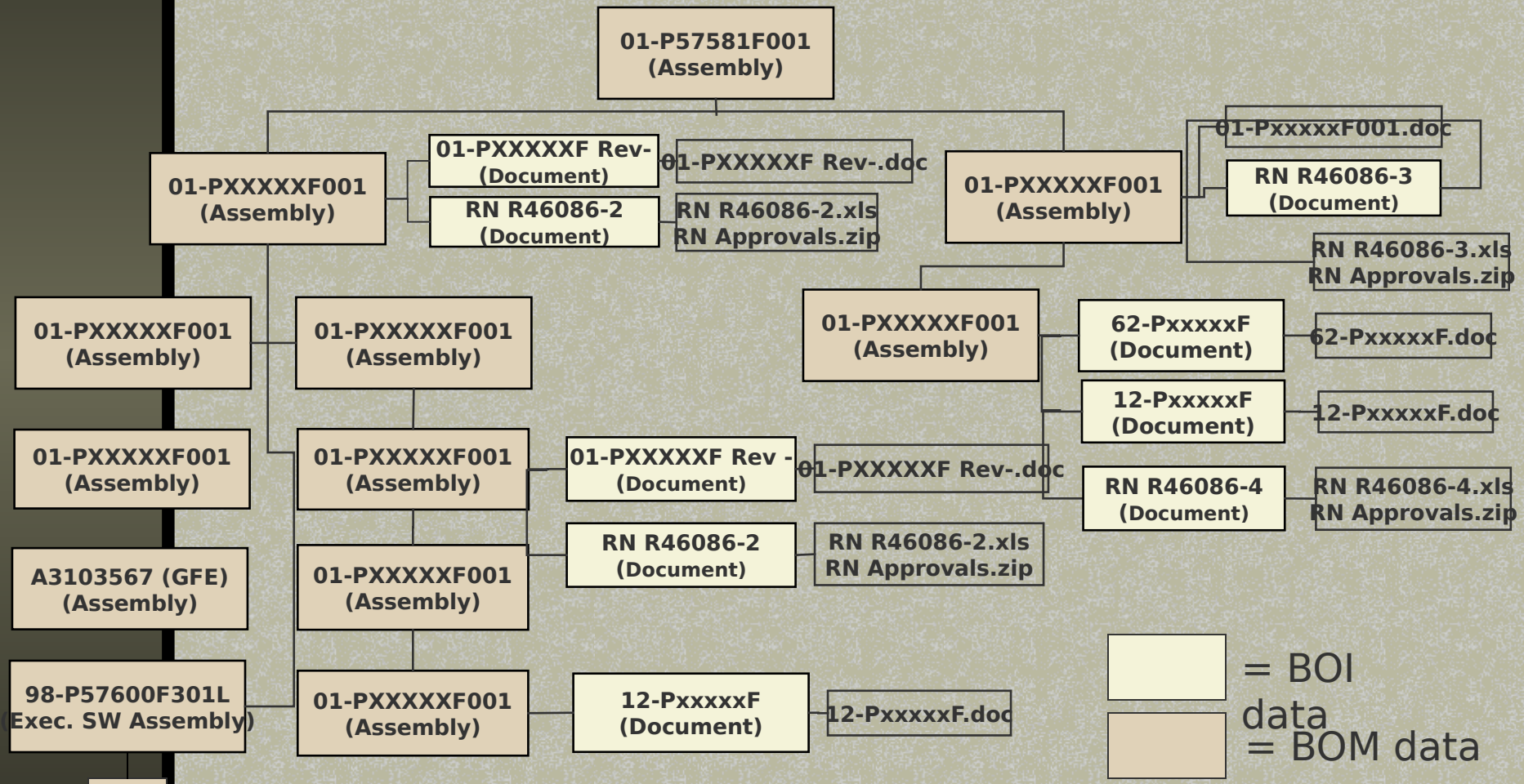
Data BOI - Submittal Example



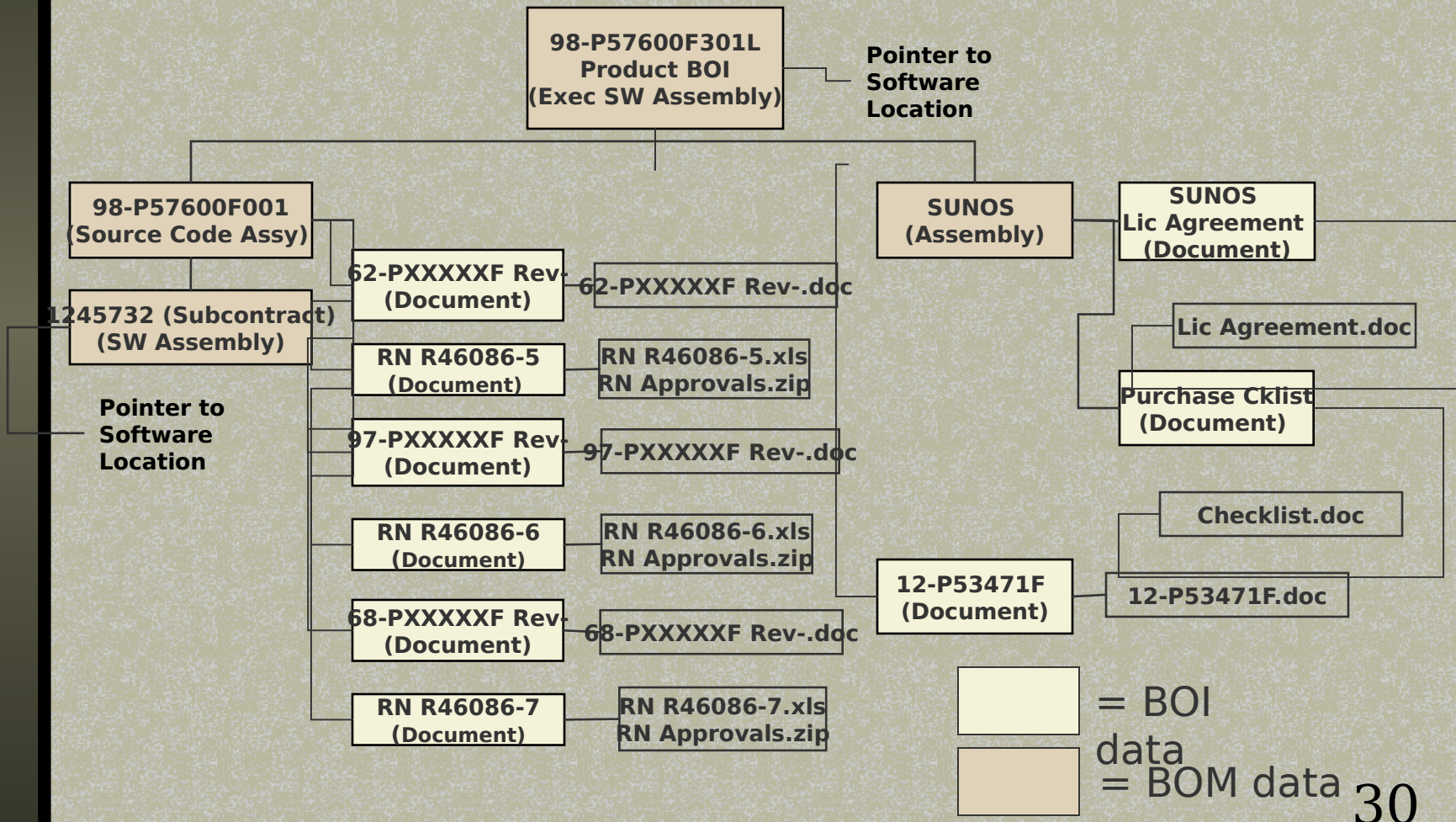
Data BOI – Revision Example



Product BOI - Hardware



Product BOI – Software



Bills of Information

Get out there and brew some DM magic!!!